ABSTRACT

The present invention allows many of the benefits of spatial diversity to be realized in a hopping radio communications system. One embodiment of the invention includes transmitting signals from a first radio using a first hopping sequence and transmitting signals from a second radio using spatial processing and a second hopping sequence. The second hopping sequence is coordinated with the first hopping sequence. In another embodiment, the invention includes selecting a set of spatial processing parameters based, at least in part, on a determination whether a third radio using a first frequency resource during a first time interval uses a second frequency resource during a second time interval and transmitting a signal from a first radio to a second radio during the second time interval using the second frequency resource and the selected set of spatial processing parameters.